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STATEMENT OF VERIFIED ENGLISH TRANSLATION

Commissioner For Patents
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Dear Sir:

The undersigned translator is fluent in French and English and that to the best of her knowledge and belief, the enclosed is a true and accurate translation of the French-language Patent Application No. PCT/FR2003/002489.

The undersigned further declares that all statements made herein of her own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful and false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed at: Beachwood, Ohio

Date: 7-12-05

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IMPROVEMENT TO ROTARY CASE

The present invention concerns a rotary case, like those used to contain cosmetic products, such as lipstick or labial creams.

5 A large number of containers are known with rotary mechanisms allowing the extraction and retraction of a product inside the protective casing. Such rotary cases schematically consist of a mobile base which climbs through axial rotation relative to a tubular body, the interior of which is movably mounted with a slide destined to receive a product to protect.

10 For evident economical reasons, the rotary cases generally are made of plastic. This material is not very costly, and moreover is easy to work with notably by molding. But the use of plastics always presents the inconvenience to confer to the rotary case a great weightlessness that is not absolutely synonymous with quality of luxury. Besides this one particularly harmful psychological consequence, a great weightlessness is not satisfactory for hand held comfort for the user. At last, a rotary case too light does not allow an optimum mastery of the movements at the time of the usage, causing a
15 notable lack of precision.

Also the technical problem to be resolved, by the object of the present invention, is to propose a rotary case behaving in a base mounted movably in axial rotation
20 relative to a tubular body in the interior of which is mounted a moving slide destined to receive a product to protect, a rotary case that would avoid the problems while offering a real perceived quality, all while guaranteeing a noticeably improved comfort and precision.

The solution to the posed technical problem includes, according to the
25 present invention, that the rotary case has a ballast to noticeably increase its mass.

The present invention concerns equally the characteristics that will be in the description that will follow, and that will have to be considered individually or according to all their possible technical combinations.

The other characteristics and advantages of the invention will reveal themselves in the description that will follow and by looking at the attached drawings which are given only by way of non restrictive examples.

5 Figure 1 is an external view of the tube of lipstick of the invention.

Figure 2 is a view of the tube in longitudinal sectional section, without the cap; the slide is in the raised and lowered positions, respectively.

Figure 3 and 4 are views of the tube in longitudinal section, without the cap, the slide is in its raised and lowered positions, respectively.

10 Figure 3A is a sectional view along section line A-A in Figure 3.

Figure 4B is a sectional view along section line B-B in Figure 4.

Figures 5, 6 and 7 represent the base of the rotary case, respectively, along section lines D-D and C-C in Figure 7 which is a view from above.

15 Figure 8 shows a longitudinal sectional view of the tubular body of the rotary casing.

Figures 9, 10, 11 and 12 depict the slide according to its primary use respectively, an external view (Figure 9), a longitudinal view along section E-E (Figure 10), a top view (Figure 11), and a bottom view (Figure 12).

20 Figures 13, 14, and 15, 16 similar to Figures 9 and 10, and represent respectively two alternate embodiments of the slide.

 Figure 14 shows a primary alternate embodiment of the slide in an exterior view, while Figure 13 is a longitudinal sectional view.

 Figure 16 shows a second alternate embodiment of the slide in an exterior view, while Figure 15 is a longitudinal sectional view.

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 The rotary case 1 has a base 2 movably mounted in axial rotation around a tubular body 3 in the interior of which mounted movably is a slide for receiving a product to be protected, herein the "grape" or stick 10.

30 The base 2 more particularly is endowed with a means of guidance 20 capable of inducing the slide 4 in axial translation relative to it, at the time of axial rotation of the aforementioned base 2 around the tubular body 3. The body is arranged manner so that the axial rotation of the base 2 is, in addition, capable of inducing the slide

4 in a spiraling motion decomposing itself in rotation and translation, the two simultaneously and axially in comparison with the tubular body 3.

Thus one can see it especially in Figure 4, and in accordance with the object of the present invention, the height (H1) of slide 4 and the height (H2) of the means of guidance 20 are less than or equal to the external height (H3) base 2, this is to say at its apparent exterior height.

In this example, the heights in question are identical for it is a matter of an optimized preferred embodiment. But it is well evident that what is important is that the respective dimensions of the slide 4 and the means of guidance 20 are not superior to those of the base 2. The external portion of the base 2 in fact, masks at once the slide 4 and the means of guidance 20 when the rotary case is in the retracted position, that is to say when the slide is in its lowered position.

Figure 5, 6, and 7 specifically illustrate the base 2, which presents a complementary form to the lower end 32 of tubular body 3, and includes coincidentally of a tube closed at its lower end. This section is equally circular in order to allow axial rotation.

According to the specifics of the present invention, the means of guidance 20 has at least one vertical rectilinear groove 21a, 21b arranged longitudinally in at least a side portion of the internal tube 22 extending itself in a concentric way inside the base 2; each of the guiding grooves 21a, 21b being capable of cooperating with a first means of guidance 41a, 41b carried by the slide 4. The cooperation between the guiding protrusions 41a, 41b and the guiding grooves 21a, 21b moves the slide 4 in axial translation in comparison with the base 2, with the axial rotation of aforementioned base 2 around the tubular body 3.

In the preferred embodiment, there are two rectilinear guiding grooves 21a, 21b. They are arranged longitudinally, and symmetrically in relation to the axis of the rotary case, in the side internal tube 22 that spreads itself to the interior and in a concentric way in comparison with the exterior peripheral portion 220 of the base 2.

The inside tube 22 is here in its entirety but it is well evident that each guiding groove 21a, 21b could be arranged independently on an individual portion of the side tube.

Figure 8 illustrates the tubular body 3 which is placed in the rotary case.

Like its name indicates, the tubular body 3 presents itself in the form of a tube with circular cross-sections. A ring shaped rib 31 extends radially from the external surface, preferably half way up. Thus, the rib defines an inferior side 32 designed to receive the base 2 movably mounted for rotation, and an upper side designed to receive a removable closing cover 100 of a suitably complementary form.

The internal surface 34 has besides, at the level of the lower end 32 of the tubular body 3, at least one spiral groove 36 which is able to cooperate with the second means of guidance 46a, 46b carried with the slide 4. In the preferred embodiment, the body includes two spiral grooves.

The cooperation between the second means of guidance 46a, 46b and the spiral grooves 36 induces the slide 4 simultaneously in rotation and axial translation with respect to the tubular body 3, at the time of the axial rotation of the base 2 around aforesaid tubular body 3.

According to a characteristic of the invention, the tubular body 3 is transparent. In a particularly advantageous implementation, the slide 4 is equally transparent.

Figures 9, 10, 11, and 12 illustrate the slide 4 which is mounted in the rotary case.

The aforementioned slide is made up of a tube 42 whose diameter is obviously complementary to the internal section of the tubular body 3. The aforementioned tube 42 includes in its central zone a bottom 45 made up by a transverse partition. The respective internal partitions of tube 42 and the bottom 45 set the limits of the space designed to support the stick 10.

According to the specifics of the invention, the slide requires a means of centering 40, forming runners, which are capable of cooperating by contact with the internal surface 34 of the tubular body 3.

In this special preferred embodiment, the means of centering 40 require four means of centering 43a, 43b, 43c, 43d uniformly distributed on the external surface of the superior side of the slide 4, that is to say in a square. It is well evident that the number of means of centering 43a, 43b, 43c, 43d could be different. One will notice that three means of centering positioned in a triangle constitute a minimal configuration to

guide, in an optimum way, the movement of the cylindrical element inside the tubular element.

It is equally noted that the centering on the low end of the slide 4 is embodied, in one part, by the cooperation between the first means of guiding 41a, 41b and the guiding grooves 21a, 21b, and also, by the cooperation between the second means of guiding 46a, 46b and the spiral grooves 36.

In an advantageous way, the means of centering 43a, 43b, 43c, 43d are equally able to cooperate by contact with an internal edge, forming a lip 37, interacting with the superior extremity of the tubular body 3. The goal is to limit how high the slide can go.

Let us add that the means of guidance 20 includes additional longitudinal and rectilinear retaining grooves 23a, 23b, which are capable of receiving the means of centering 43a, 43b, 43c, 43d when the slide is retracted all the way inside the base 2.

According to a complimentary characteristic, the means of centering 43a, 43b, 43c, 43d are capable of being engaged in the guiding grooves 21a, 21b intended for the guidance of the slide in translation in the base 2. This advantageous characteristic limits the number of the retaining grooves 23a, 23b.

But according to another characteristic of the invention, the first means of guiding 41a, 41b have portions of larger dimensions than the retaining grooves 23a, 23b which are designed to receive the means of centering 43a, 43b, 43c, 43d. This advantageous characteristic prevents the first means of guiding 41a, 41b from entering the retaining grooves 23a, 23b, this is in order to guarantee a correct mounting of the rotary case during manufacturing or after all dismantling operations. The retaining grooves 23a, 23b have, in effect, a noticeably smaller length than the guiding grooves 21a, 21b. This means that the retaining grooves 23a, 23b are specialized, and different from the guiding grooves 21a, 21b which can receive the means of guiding 41a, 41b and the means of centering 43a, 43b, 43c, 43d at once.

The rotary case according to the invention is endowed with a removable cap 100 which is removably attached to the free end of the tubular body, for example by a clip.

Let us add that in the closed position the tube of lipstick such as is represented by Figures 1 and 2, the ring-shaped rib 31 is arranged between the inferior

edge of the cap 100 and the superior edge of the base, this allows the user to see the lipstick through the transparent body, the slide being totally enclosed inside the base.

Incidentally according to an advantageous arrangement, the spiral grooves 36 extend to a height (H4) less than or equal to the height of the base.

5 In accordance with the purpose of the present invention, the rotary case 1 has a ballast which is able to noticeably increase its mass, thus, obtaining weight to compensate for the intrinsic weightlessness of plastic rotary cases 1. The comfort and precision of usage, as well as the perceived quality are consequently noticeably improved.

10 Figures 1 through 12 illustrate the primary embodiment of the slide, while Figures 13, 14 and 15, 16 illustrate, respectively, two alternate embodiments of the slide.

In three cases and according to a characteristic of the invention, the ballast 40, 40', 40'' is interdependent of the body of slide 4, 4', 4''.

15 The slide 4, 4', 4'' is made of a piece of the rotary case 1 to receive a supplement material without any modification to its exterior dimensions and/or without questioning the overall capacity of the rotary case.

20 The term interdependent means that the ballast 40, 40', 40'' is respectively linked to the slide in its movements, without defining the nature of the liaison that connects them. In other words, this means that the ballast 40, 40', 40'' and the slide 4, 4', 4'' do not necessarily constitute a single and integral piece, but they can be individual elements assembled to each other, in a permanent way or not, by any known means of assembly.

25 One will recall that the slide generally presents itself in the form of a tube with a defining transverse internal partition 45, on one hand, an upper end 450, forming an accommodation, designed to receive the product to be protected 10, and on the other hand, a lower end, forming a skirt, designed to assure the mentioned guidance of the slide in the tubular body.

30 Now according to another characteristic of the invention, the ballast 40, 40', 40'' is interdependent with the end of the slide 4, 4', 4'' which is placed below the space designed to receive the product to protect. This means that the ballast 40, 40', 40'' is interdependent with the lower end of the slide, that is to say it is essentially devoted to guidance. The cavity inside the skirt is advantageously used to receive the ballast.

Figures 1 through 12 illustrate the primary preferred embodiment of the invention, in which the ballast 40 is made of a high density material forming a single piece with the slide 4. Thus in this embodiment, the ballast 40 forms an integral part of the slide's 4 structure. The aforementioned ballast 40 is, in fact, constituted by the lower
5 end of the slide, a part that presents here a massive structure in order to play the role of the means of ballast.

According to another characteristic of the invention, the slide 4 has a means of ventilation 70 capable of allowing the placement of stick 10 in the upper end mentioned slide, these means being constituted by an axial conduit 71 that communicates,
10 both with the space designed to receive the protected product, and with the space situated under the slide. It is the result in this embodiment that the ballast 40 is presented in a tubular form of comparatively significant thickness.

The embodiment illustrated in Figures 13 and 14 distinguish themselves from Figures 10, 11, and 12, by their means of ventilation 70 here having a lateral conduit
15 72 communicating, with both the space designed to received the product to protect, and also with the space situated on the sides of the slide 40'. The ballast 40' presents therefore is a purely cylindrical form of which the lateral external surface is continuation of the tubular partition which sets the limits of the space designed to receive the protected product.

20 It is possible to combine the two types of conduits 71, 72 on the same slide, but equally to modify the number and/or the distribution.

Figures 15 and 16 illustrate a slide 4'' according to the second preferred embodiment of the invention, in which the ballast 40'' is constituted by an independent element which is joined to the slide; the independent element being made of a high
25 density material. The independent element 40'' here is structurally distinct from the slide 4''. It is not that an element is only joined to the slide, understanding that this assembly can be made in a way that is permanent or not. In this embodiment example, the slide 4'' requires an open well near the bottom, which is situated under the space designed to receive the protected product and which is able to receive an independent element 40''
30 forming the ballast, that has a suitably complementary form.

Also, and of a particularly advantageous manner, the slide 4'' is endowed with a means capable of locking the ballast in its appropriate place.

Of course, the invention is not limited to the preferred embodiments described and represented by the title of this example, but it also includes all the equivalent techniques and their combinations.